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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Maziar Nekovee

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EXAMINER

CHENEY, BOBAE K.

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/594,670	<b>Applicant(s)</b> NEKOVEE ET AL.	
	<b>Examiner</b> BOBAE K. CHENEY	<b>Art Unit</b> 2458	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2010.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10-17 and 21-25 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-17 and 21-25 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 July 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>07/12/2010</u> .  | 6) <input type="checkbox"/> Other: _____                          |

### DETAILED ACTION

1. Claims 1, 8, 17, 21, and 22 are amended by applicant. Claims 2, 9, and 18 – 20 are cancelled by the applicant. Claims 23 – 25 are newly added by the applicant.
2. The applicant has filed replacement of the original drawing of Figure 1. New drawing of Figure 1 has been accepted by the examiner.

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. **Claims 1, 5 – 8, 13 – 16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse (US Patent 6,411,967) in view of Blair (US Publication 2003/0061316) and Vleet (US Publication 2005/0033803).
5. Regarding to **claim 1**, "a method of transmitting data over a decentralized network, the method comprising the steps of: receiving a plurality of data files at a relay device," Van Renesse teaches decentralized network [Figure 1] and gossip the updates to one another [Column 4 Line 12 - 29]. When the nodes are gossiping the updates to one another, nodes will receive plurality of updates (data files). "Processing the data therein to create an aggregated compressed data file," Van Renesse teaches combining two update messages into a composite update message [Column 6 Line 21 – 27]. "Transmitting the aggregated compressed data file to a plurality of similar relay device over the decentralized network," Van Renesse teaches nodes gossip among

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themselves to update the nodes [Abstract]. In order to update among themselves, nodes will send the updated data to other nodes. Van Renesse does not expressly teach “at least one of the data files being a compressed data file.” However, Blair teaches creating compressed file and transmitting the compressed file [Paragraph 33]. It would have been obvious to one of ordinary skill in the art at the time of the invention to create compressed file taught by Blair when creating an aggregated file to transmit to other nodes for the purpose of transmitting the file faster. Smaller size of file will travel faster in a network. Van Renesse and Blair do not expressly teach “wherein the compression and aggregation technique applied to the data is a Bloom filter process.” However, Vleet teaches using Bloom filter process, which is a condensed representation of data [Paragraph 55]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Bloom filter process taught by Vleet in compression and aggregation data taught by Van Renesse and Blair for the purpose of reducing the processing and data retrieval [Vleet Paragraph 55].

6. Regarding to **claim 5**, “wherein the aggregated compressed data files are transmitted using an epidemic dissemination process,” Van Renesse teaches nodes gossiping among themselves (epidemic dissemination process) [Abstract].

7. Regarding to **claim 6**, “wherein each relay device stores each message received, compares subsequently received messages with those already stored, and suspends the aggregating and forwarding process for any duplicate messages identified,” Van Renesse teaches messages with version number and if the version number of new message is bigger than the version number on base, then store the new message and if

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the version number is smaller than the version number on base, then ignores the message (suspend process) [Column 3 Line 55 - Column 4 Line 10].

8. Regarding to **claim 7**, “wherein at least some of the relay devices receive compressed data from associated data generation and compression means,” Van Renesse teaches receiving update information from other node it was updated (data generation) [Column 3 Line 55 – Column 4 Line 10] and Blair teaches compressed file [Paragraph 33].

9. **Claim 8** is similar to claim 1. Therefore, claim 8 is rejected under the similar ground.

10. **Claim 13** is similar to claim 5. Therefore, claim 13 is rejected under the similar ground.

11. **Claim 14** is similar to claim 6. Therefore, claim 14 is rejected under the similar ground.

12. **Claim 15** is similar to claim 7. Therefore, claim 15 is rejected under the similar ground.

13. Regarding to **claim 16**, “analysis means for analyzing incoming aggregate messages to capture data contained therein,” Van Renesse teaches updating replicate management information base with update message with information [Column 3 Line 55 – Column 4 Line 10]. In order to update base with update message, it needs to capture the data contained in the message.

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14. **Claims 17 – 22** are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse (US Patent 6,411,967) in view of Blair (US Publication 2003/0061316), Jackson (US Publication 2004/0039789), and Vleet (US Publication 2005/0033803).

15. Regarding to **claim 17**, “a decentralized communications network in which a plurality of servers collectively maintain a database that records event reports,” Van Renesse teaches decentralized network with each node maintaining Replicated management information base (database) [Figure 1, Column 1 Line 24 – 43]. “The plurality of servers forming an overlay network and intercommunicating using a common messaging strategy based on a publisher forwarding scheme running over the overlay network,” Van Renesse teaches network using messaging scheme and node sends out update message to other nodes (publisher forwarding scheme) [Column 1 Line 6 – 43]. “The servers having means to aggregate compressed data messages received from one or more other servers to create a compressed aggregate message,” Van Renesse teaches gossip the updates to one another [Column 4 Line 12 - 29]. When the nodes are gossiping the updates to one another, nodes will receive plurality of updates (data files). Van Renesse teaches combining two update messages into a composite update message [Column 6 Line 21 – 27]. “To broadcast the compressed aggregate message to one or more of the other servers,” Van Renesse teaches nodes gossip among themselves to update the nodes [Abstract]. “at least one of the servers having means to generate data messages in response to specific events, and means to aggregate the data messages so generated with the messages received from the other servers,” Van Renesse teaches each node update its node by its own or by update message from

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Other nodes [Column 3 Line 55 - Column 4 Line 10] and aggregating update messages [Column 6 Line 21 – 27]. “The servers have means to modify the aggregate messages they receive before broadcasting them,” Van Renesse teaches updating version number before sending to other nodes [Column 3 Line 55 – Column 4 Line 10]. Van Renesse does not expressly teach compressed files. However, Blair teaches creating compressed file and transmitting the compressed file [Paragraph 33]. It would have been obvious to one of ordinary skill in the art at the time of the invention to create compressed file taught by Blair when creating an aggregated file to transmit to other nodes for the purpose of transmitting the file faster. Smaller size of file will travel faster in a network. Van Renesse and Blair do not expressly teach “having means for the deletion of time-expired elements of the messages.” However, Jackson teaches server deleting expired messages [Paragraph 123]. It would have been obvious to one of ordinary skill in the art at the time of the invention to delete expired message taught by Jackson when transmitting messages taught by Van Renesse for the purpose of prevent usage of unnecessary bandwidth. “Arranged for the dissemination of aggregated Bloom filter messages using an epidemic dissemination process,” Van Renesse teaches nodes gossiping among themselves (epidemic dissemination process) [Abstract]. Van Renesse does not expressly teach Bloom filter message. However, Vleet teaches using Bloom filter process, which is a condensed representation of data [Paragraph 55]. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Bloom filter process taught by Vleet in

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epidemic process taught by Van Renesse for the purpose of reducing the processing and data retrieval [Vleet Paragraph 55].

16. Regarding to **claim 21**, “wherein individual servers have means for deleting from the data that is to be forwarded any data that has been previously received and forwarded by the same device,” Van Renesse teaches deleting overlapping messages [Column 6 Line 30 – 37].

17. Regarding to **claim 22**, “wherein individual servers have means for extracting data required by a processing device associated with the server,” Van Renesse teaches updating replicate management information base with update message with information [Column 3 Line 55 – Column 4 Line 10]. In order to update base with update message, it needs to extract the date contained in the message.

18. **Claims 23 and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse, Blair, and Vleet as applied to claims 1 and 8 above, and further in view of Vardakas (US Patent 5,383,187).

19. Regarding to **claim 23**, Van Renesse and Vleet teaches transmitting aggregated file with Bloom filter process, but does not expressly teach “wherein the data that is received at the relay device from different sources at a same time frame is aggregated by the Bloom filter process so that in each said time frame only a single Bloom filter message is transmitted by the relay device.” However, Vardakas teaches transmitting each message during a single time frame [Column 9 Line 57 – Column 10 Line 2]. It would have been obvious to one of ordinary skill in the art at the time of the invention to transmitting each message during a single time frame taught by Vardakas when



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transmitting aggregated file taught by Van Renesse for the purpose of prevent messages being lost during the transmission.

20. **Claim 24** is similar to claim 23. Therefore, claim 8 is rejected under the similar ground.

21. **Claim 25** is rejected under 35 U.S.C. 103(a) as being unpatentable over Van Renesse, Blair, Jackson, and Vleet as applied to claim 17 above, and further in view of Vardakas (US Patent 5,383,187).

22. Regarding to **claim 25**, Van Renesse and Vleet teaches transmitting aggregated file with Bloom filter process, but does not expressly teach “wherein the data that is received at the relay device from different sources at a same time frame is aggregated by the Bloom filter process so that in each said time frame only a single Bloom filter message is transmitted by the relay device.” However, Vardakas teaches transmitting each message during a single time frame [Column 9 Line 57 – Column 10 Line 2]. It would have been obvious to one of ordinary skill in the art at the time of the invention to transmitting each message during a single time frame taught by Vardakas when transmitting aggregated file taught by Van Renesse for the purpose of prevent messages being lost during the transmission.

### ***Response to Arguments***

23. Applicant's arguments filed 07/12/2010 have been fully considered but they are not persuasive.

24. Regarding to claim 1, the applicant argues that Vleet does not teach compression and aggregate data and decentralized network. However, these features

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were taught by Van Renesse [Abstract and Figure 1]. The Bloom filter process taught by Vleet would be used in compression and aggregation data, which are sent between nodes in decentralized network taught by Van Renesse to provide condensed representation of the data. It would have been obvious to one of ordinary skill in the art at the time of the invention to use Bloom filter process taught by Vleet in compression and aggregation data taught by Van Renesse and Blair for the purpose of reducing the processing and data retrieval [Vleet Paragraph 55].

### ***Conclusion***

25. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BOBAE K. CHENEY whose telephone number is (571)270-7641. The examiner can normally be reached on Monday - Thursday 7:30 AM- 4:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Avellino can be reached on (571)272-3905. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BOBAE K CHENEY  
Examiner  
Art Unit 2458

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